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**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

15 FEB 2005

Applicant's or agent's file reference 32711 PC 01	<b>FOR FURTHER ACTION</b>		See Form PCT/PEA/416
International application No. PCT/DK 03/00546	International filing date (day/month/year) 15.08.2003	Priority date (day/month/year) 15.08.2002	
International Patent Classification (IPC) or national classification and IPC E05B37/00			
Applicant PROAC APS et al.			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p style="margin-left: 20px;">a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 3 sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p style="margin-left: 20px;">b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand  15.03.2004		Date of completion of this report  18.11.2004	
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer  Alexopoulos, T  Telephone No. +49 89 2399-2853	



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/DK 03/00546

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-26 as originally filed

**Claims, Numbers**

1-28 received on 21.10.2004 with letter of 21.10.2004

**Drawings, Sheets**

1/18-18/18 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-28
	No: Claims	
Inventive step (IS)	Yes: Claims	2-28
	No: Claims	
Industrial applicability (IA)	Yes: Claims	2-28
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

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**Re Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Claim 1:

Prior art US 4 454 824 A, discloses a safety-fastener to be secured by fastening, said fastener comprising at least a threaded tip and a rod, the threaded tip and rod being interconnected in a joint allowing transmission of rotational movement from the rod to the threaded tip in one locked state and preventing transmission of rotational movement from the rod to the threaded tip in another unlocked state.

Problem: To improve the security of the safety-fastener.

Solution: The joint and at least a part of the locking element is positioned at a distance below the surface of the structure to which the safety-fastener is fastened according to claim 1. There is no lead in the available prior art to such a safety-fastener.

Claim 22:

There is likewise no lead in the prior art to the lock safety-fastener of claim 22 wherein the lock in its locked state rotates freely around the lock accepting section of the fastener.

Claims 2-21, 23-28:

Claims 2-21, 23-28 are dependent on claims 1, 22 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

**Re Item VII**

**Certain defects in the international application**

The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents US 4 454 824 A and GB 323 444 A is not mentioned in the description, nor are these documents identified therein.

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.

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The description is not in conformity with the claims as required by Rule 5.1(a)(iii) PCT.

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## CLAIMS

1. A safety-fastener to be secured by fastening, said fastener comprising at least a  
5 threaded tip and a rod, the threaded tip and rod being interconnected in a joint allowing transmission of rotational movement from the rod to the threaded tip in one locked state and preventing transmission of rotational movement from the rod to the threaded tip in another unlocked state  
- wherein the joint and at least a part of the locking element is positioned at a  
10 distance below the surface of the structure to which the safety-fastener is fastened when in use..
2. A safety-fastener according to claim 1, being adapted to allow reversible shifting between the locked and the unlocked state.
- 15 3. A safety-fastener according to claim 1 or 2, wherein the joint is locked by the insertion of a locking element into a rotationally locking engagement in the rod and the threaded tip.
- 20 4. A safety-fastener according to any of the claims 1-3, wherein the rod comprises a gripping means (extending in a direction opposite to the threaded tip) for applying a torque to the rod.
5. A safety-fastener according to claims 3 or 4, where the locking element is accessible  
25 from a top portion of the rod opposite to the threaded tip so as to allow shifting between the locked and the unlocked state on a mounted safety-fastener.
6. A safety-fastener according to any of the claims 3-5, wherein the joint is shifted from the locked to the unlocked state vice versa by the removal of the locking element from the  
30 joint.
7. A safety-fastener according to any of claims 3-5, wherein the joint is shifted from the locked state to the unlocked state by irreversible breaking of the locking element.
- 35 8. A safety-fastener according to claim 7, wherein the locking element is adapted to break at a pre-specified torque.
9. A safety-fastener according to any of claims 3-8, adapted to allow reversible shifting between the locked and the unlocked state by displacement of the locking element in the  
40 axial direction of the fastener.
10. A safety-fastener according to claim 9, wherein the locking element is displaced in a direction from the rod towards the threaded part.

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11. A safety-fastener according to claim 9, wherein the locking element is displaced in a direction from the threaded part towards the rod.

12. A safety-fastener according to any of the preceding claims, wherein the threaded part contains at least 5 threads.

13. A safety-fastener according to any of the preceding claims, wherein the length of the threaded part is at least 50% of the entire length of the safety-fastener.

10 14. A safety-fastener according to any of claims 3-13, wherein the rod is provided in the form of a hollow tube that houses the locking element.

15. A safety-fastener according to any of claims 3-14, wherein the rod and threaded tip comprises a hollow channel that houses the locking element.

15

16. A safety-fastener according to claim 15, further comprising a handle member arranged to control the moving of the locking element from a top portion, opposite the threaded tip, of the rod.

20 17. A safety-fastener according to claim 15 or 16, further comprising fixating means allowing fixation of the locking element in any of the first and/or the second positions.

18. A safety-fastener according to any of the preceding claims, further comprising locking means adapted to receive a pad-lock for locking the locking element in either the locked and/or the unlocked states of the fastener.

25

19. A safety-fastener according to any of the preceding claims, wherein the rod comprises attachment means for securing peripheral objects to the fastener.

20. A safety-fastener according to claim 19, wherein said object is selected from a group consisting of: a beach safety-box as defined herein, a beach-chair as defined herein, a parasol, a bike, a motor cycle, a boat, an animal, a fishing rod, a gun, a sculpture, a lawnmower, a garden pot and a car.

30 21. A safety-fastener according to any of claims 3-20, wherein the joint is shifted between the locked and unlocked state by respectively removing and inserting the locking element into the Safety-fastener.

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22. A lock safety-fastener comprising a fastener and a lock wherein the fastener contains

- an insertion-region which can be used for attachment into a solid material, and
- 5 - a lock-accepting region which protrudes from the solid material, and

wherein the attachment and locking of the lock to the lock-accepting region allows the lock to rotate freely around the lock-accepting region in its locked state thereby significantly hindering the possibility for loosening the fastener.

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23. A lock safety-fastener according to claim 22, wherein the insertion-region of the fastener is threaded and wherein the lock-accepting region comprises a gripping means for applying torque to the fastener thereby enabling the fastener to be secured by screwing.

15 24. A lock safety-fastener according to any of claims 22 and 23, wherein the lock is constructed such that it

- can be attached to the lock-accepting region of the fastener when unlocked
- cannot be detached from the lock-accepting region of the fastener when locked,
- 20 - can rotate freely on the lock-accepting region of the fastener when locked, and
- prevents the lock-accepting region of the fastener and the fastener-head to be accessed by gripping tools when locked .

25. A lock safety-fastener according to claim 24, wherein the lock is a code-lock.

25 26. A lock safety-fastener according to claim 25, wherein the lock comprising from 2 - 12 numbered discs.

27. A lock safety-fastener according to claims 25 or 26, wherein the user can program the lock.

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28. The use of a safety-fastener or lock safety-fastener according to any of the preceding claims, to secure objects against unauthorised removal.